NEPTUNIA PLENA (FABACEAE: MIMOSOIDEAE) REDISCOVERED IN TEXAS

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ABSTRACT

On October 17, 1938, Robert Runyon collected a specimen of *Neptunia plena* from a shallow pond south of Armstrong in Kenedy County, Texas. No subsequent collections from Texas have been reported. It was assumed that it was not a permanent member of our flora. On October 27, 2007, a population of *N. plena* was found near the same locality.

RESUMEN

El 17 de octubre de 1938, Robert Runyon recogió un espécimen de *Neptunia plena* de una charca somera de Armstrong en el condado de Kenedy, Tejas. No se ha encontrado ninguna colección posterior de Tejas. Fue asumido que no era un miembro permanente de nuestra flora. En octubre de 27, 2007, una población del *N. plena* fue encontrada cerca del mismo lugar.

Neptunia plena is commonly found in the West Indies, Mexico, and South America (Correll & Johnston 1970). It was introduced into India. It is a sprawling perennial which grows in ponds or damp soils. The stems growing in water are horizontal and become covered with a brown, spongy fungal growth (when the fungus is present); in soil, the stems are more or less erect. The younger stems produce adventitious roots when submerged in water. The leaves are sensitive, twice compound, about 6.5 cm long, with 2 to 5 pairs of pinnae. The petiole bears a gland positioned immediately below the lowest pair of pinnae (Fig. 2). The flowers are in globose or ovoid heads bearing two types of flowers. The lower portion of the head bears large, shiny, brilliant yellow staminodes; the upper portion of the head bears small whitish, normal flowers (Fig. 1). The legumes are flattened, about 2 cm long and 6 mm broad.

Neptunia plena was collected in Kenedy County by Robert Runyon on October 17, 1938. According to label information on his specimen at TEX (*R. Runyon 1959*), it was growing in a shallow pond south of Armstrong. Since that time, there have been no reports of the species from Texas. The natural conclusion was that it was probably not a persistent part of the Texas flora. It was so noted in the *Manual of the Vascular Plants of Texas* (Correll & Johnston 1970).

On October 27, 2007, we found a population growing in the median of Highway 77 in an ephemeral pond in Kenedy county, 4.8 miles north of the Willacy County border. This is the same general area as the Runyon collection. Growing nearby were *Nymphaea elegans*, *Ludwigia decurrens*, *Eleocharis sp.*, *Prosopis glandulosa*, and *Physalis pubescens*. The median landscape is mowed along the edge of the highway, but the middle sections are left in the "wild" state to help support the development of native species. The soil type is sandy loam with underlying clay which helps to hold water in the ponds after heavy rains. The rainfall average is twenty six inches per year, but there are cycles of drought years followed by one or a few wetter years. It is during these wetter years that the ponds form.

After examining other similar habitats, we found *N. plena* growing in several ponds near the one in which it was first seen. Another population was found in Cameron County on Highway 1847, four miles north of Highway 510. A specimen was not collected. In most localities, *N. pubescens* was found growing nearby.

Our conclusion is that the plants emerge during the periodic wet seasons and produce flowers and seeds. When the ponds disappear during the dry years, the plants become dormant and persist as seeds or perhaps underground propagules.

Fig. 1. Flower head and immature fruit.

Fig. 2. Leaf with petiolar gland.

There are several reasons why *N. plena* could have been flourishing in this area without being noticed. There has not been much field activity in the area, as evidenced by the relatively few specimens available. Secondly, during the periodic drought years, the plants would be dormant. Also, the blooming season may be short. We returned to the site one week later, and there were few blooms. A further difficulty is the presence of two similar Neptunias in the area. *N. pubescens* has an inflorescence similar to that of N. *plena*, but it lacks the petiolar gland of that species. *N. lutea* also has a yellow globose or ovoid inflorescence, but the flowers are all the same type. At a distance all three species would look alike.

Voucher specimen: **TEXAS. Kenedy Co.:** Hwy. 77, 4.8 mi N of Willacy County border, ephemeral pond in median, 27 Oct 2007, *Richardson and King* 3365 (BRIT, TEX).

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